ABSTRAK

Latar Belakang: 311-316 (4-5%) pasien infant menjalani operasi elektif di RSUD dr. Soetomo Hospital Surabaya setiap tahun. Salah satu persiapan operasi adalah puasa. Pasien pediatri lebih mudah mengalami hipoglikemia karena metabolisme yang tinggi dan simpanan glikogen lebih sedikit; oleh karenanya, infus Dekstrosa 5% NaCl 0.225% biasa digunakan sebagai rumatan. Penelitian sebelumnya pada pasien operasi elektif menunjukkan peningkatan kadar gula darah post-operatif bermakna. Pada pasien darurat, stres dan puasa yang tidak cukup mungkin mempunyai peran dalam peningkatan kadar gula darah post-operatif.

Metode: 14 infant yang menjalani operasi darurat (kelompok I) dan 14 operasi elektif (kelompok II) yang sesuai kriteria inklusi dan eksklusi diambil sebagai sampel. Informed consents diambil, pasien dipuasakan sesuai panduan *American Society of Anesthesiologists (ASA)*; kecuali pasien darurat yang tidak memungkinkan ditunda operasinya. Infus Dekstrosa 5% NaCl 0.225% digunakan sebagai rumatan selama operasi sesuai standar di RSUD dr. Soetomo. Sampel GDA diambil setelah induksi anestesi dan setelah operasi. Perbedaan GDA durante operasi dibandingkan antara kedua kelompok.

Hasil: Kelompok I mengalami peningkatan GDA yang lebih tinggi secara bermakna dibanding kelompok II. Lama operasi berbeda bermakna antara kedua kelompok sedangkan usia, berat badan, lama operasi, kadar GDA preoperasi homogen.

Kesimpulan: Pasien infant yang menjalani operasi darurat lebih cenderung mengalami hiperglikemia postoperatif, oleh karenanya, kadar dekstrosa yang lebih rendah mungkin diperlukan untuk rumatan selama operasi. Pada kasus ini, puasa yang terlalu lama mungkin mempunyai andil, sedangkan stres preoperatif tidak diamati. Penelitian lebih lanjut diperlukan mengenai penyebab lebih tingginya peningkatan kadar gula darah pada operasi darurat dan dalam penentuan kadar dekstrosa yang tepat untuk rumatan selama operasi pada infant.

ABSTRACT

Background: *311-316 (4-5%) infants underwent elective surgeries in dr. Soetomo Hospital Surabaya annually. Where preoperative preparations including fasting, pediatric patients are more prone to suffer from hypoglycemia due to high metabolism rate and less glycogen storage; thus, infusion of Dextrose 5% NaCl 0.225% is commonly used for maintenance. Several studies in elective surgery patients had shown significant increase of blood glucose level postoperatively. In emergency settings, stress and inadequate fasting may have an impact in causing higher increase of blood glucose level postoperatively; thus, lower concentration of dextrose might be required in maintenance infusion.*

Methods: *14 infants who underwent emergency surgeries (group I) and 14 of elective surgeries (group II) who matched the inclusion and exclusion criterias were collected as samples. Informed consents were taken, patients were fasted according to the American Society of Anesthesiologists (ASA) guidelines; unless the urgency of the surgery made inadequate fasting inevitable. Infusion of Dextrose 5% NaCl 0.225% were used as maintenance during surgery according to the clinical standard of care in dr. Soetomo Hospital. Random blood glucose samples were taken after induction of anesthesia and right after surgery. The difference between both samples were then compared between groups.*

Results: *Group I had significantly higher increase of random blood glucose compared to group II. Fasting period were significantly different between each group whereas age, body-weight, surgery time, and preoperative random blood glucose level were similar between groups.*

Conclusion: *Infants who underwent surgeries in emergency settings are more prone to suffer from postoperative hyperglycemia, thus, lower dextrose concentration might be required for maintenance during operation. In this case, prolonged fasting may have a role in causing it while preoperative stress was not observed. Further investigations are required to evaluate the factors that may cause the higher increase of blood glucose level during surgeries in emergency settings; and in determining the proper dextrose concentration used in maintenance of infusion during surgeries in infants.*